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January 1920

Test 064: Uncle Sam 20-30

Tractor Museum

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UNIVERSITY OF NEBRASKA
AGRICULTURAL ENGINEERING DEPARTMENT
UNIVERSITY FARM, LINCOLN

Report of Official Tractor Test No. 64

Dates of test Sept. 21 to Sept. 28, 1920.

Name, model and rating of tractor Uncle Sam 20-30

Serial No. Engine 226-2 JB Serial No. Chassis 1152

Manufacturer U. S. Tractor & Machine Co., Menasha, Wis.

Tractor equipment used Dixie Model 46C Magneto; Bennett Carburetor.

Style and dimensions of wheel lugs Spade 3½" high.

Brake Horse Power Tests

Horse Power Developed	Crank Shaft Speed R. P. M.	Length of Test Min.	Fuel Consumption			Water Consumption Gallons per Hour			Temperature *Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Humidity %	Barometric Pressure Inches Mercury
			Kind of Fuel	Amount Used per Hour Gallons	Horse Power Hours per Gallon	In Radiator	In Fuel Mixture	Total				
RATED LOAD TEST												
30.75	1025	120	Kero	6.34	4.85	0.50	0.00	0.50	181	90	42	28.9
			Belt Slippage	1.73%								
VARYING LOAD TEST												
30.00	1009.5	10	Kero.									
28.40	952.5	10	"									
4.10	1099	10	"									
7.99	1074	10	"									
15.70	1054	10	"	Average belt slippage					1.42%			
23.10	1035.5	10	"									
18.65	1037	60	Kero	3.90	4.78	0.21	0.00	0.21	186	77.5	56	28.3
MAXIMUM LOAD TEST												
32.20	1041	60	Kero	6.41	5.02	0.14	0.00	0.14	192	88	32	28.6
			Belt Slippage	1.77%								
HALF LOAD TEST												
15.17	1053	60	Kero	2.63	5.78	0.23	0.00	0.23	187	84	42	28.6
			Belt Slippage	1.39%								

*Taken in discharge line from engine.

Remarks Kerosene used for fuel in this test weighed 6.78# per gallon.

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Drawbar Horse Power Tests

Horse Power Developed	Draw Bar Pull Pounds	Speed Miles per Hour	Crank Shaft Speed R. P. M.	** Slippage of Drive Wheels %	Fuel Consumption			Water Used per Hour Gallons	*Temperature of Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Average Humidity %	Barometric Pressure Inches Mercury
					Ind of Fuel Used	Amount Used per Hour Gallons	Horse Power Hours per Gallon					
RATED LOAD TEST. TEN HOURS												
21.98	2954	2.79	1027	18.2	Kero	5.74	3.83	0.23	185	71	40.5	28.8
MAXIMUM LOAD TEST (1st 122.3 ft; 2nd 134.5 ft.)												
22.40	3264	2.57	980	18.0	Kero	----Not Recorded----			180	64	27	28.9
21.66	2180	3.73	985	9.85	"	"	"		180	64	27	28.9

*Taken in discharge line from engine.

Remarks** For computing slippage, the circumference of the drive wheels was taken at points of lugs.

The rated and first maximum tests were made in low gear, the second maximum was made in high gear.

Oil Consumption:

During the complete test consisting of about 34 hours running the following oil was used:

For the engine, 4 1/2 gallons of Mobiloil B

For the transmission, none added gallons of " C

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Repairs and Adjustments. Endurance:

During the limbering up run the drawbar hitch casting was broken and replaced; also 13 lugs were lost due to wheel slippage on hard surface.

After about 14 hours of running the magneto timing was changed.

At the end of the brake test the motor was taken down to stop oil leak around rear crankcase gasket under rear crankshaft bearing. During this operation the radiator was punctured and had to be repaired.

At the end of the test the pump packing had to be tightened.

With the exception of the above repairs and adjustments the tractor was in good condition at the end of the test.

It is our opinion that the repairs and adjustments necessary during this test do not indicate any mechanical defect so serious as to disqualify the tractor.

Brief Specifications Uncle Sam 20-30 H.P. Tractor.

Motor: Bever, 4-cylinder, valve-in-head, vertical, Bore $4\frac{1}{4}$ "
Stroke 6". Rated speed 1000 r.p.m. Rated H.P., belt 30, drawbar 20.

Chassis: 4 wheel. Rated speeds: low 2.5, high $3\frac{1}{4}$ miles per Hr.

Total weight 4500#

General Remarks:

In the advertising literature submitted with the application for test of this tractor we find some statements and claims which cannot be directly compared with the results of this test as reported above. It is our opinion that none of these are excessive or unreasonable.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 63.

Fred R. Mohavee.
Engineer-in-Charge

Oscar V. Jorgensen
E. E. Brackett.
C. W. Smith

Board of Tractor Test Engineers.